



NOAA Data Management

Vision - Approach - Framework - Architecture

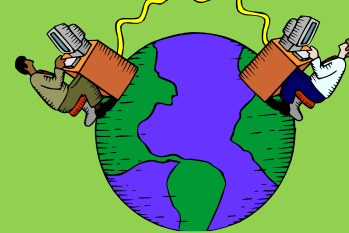
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Vision for NOAA Data Management

All NOAA data will be: • Discoverable



• Accessible



• Documented



• Preserved



for all types of users and applications.

NOAA Environmental Data Management Framework

Data Management Framework

Principles				
Governance				
Resources				
Standards				
Architecture				
Assessment				
Data Lifecycle	Data Lifecycle	Data Lifecycle	Data Lifecycle	Data Lifecycle

- Purpose: To organize, guide and support NOAA environmental data management activities.
- Mandate: Science Advisory Board (SAB) recommendation to NOAA.
- Due date: March 2013
- Status: Initial draft pending based on inter-agency *National Earth Observations (NEO) Strategy, ch. 4 (Data Mgmt)*.

Data Management Framework

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Principles

- Full and Open Access
- Data Preservation
- Information Quality
- Ease of Use

Data Management Framework

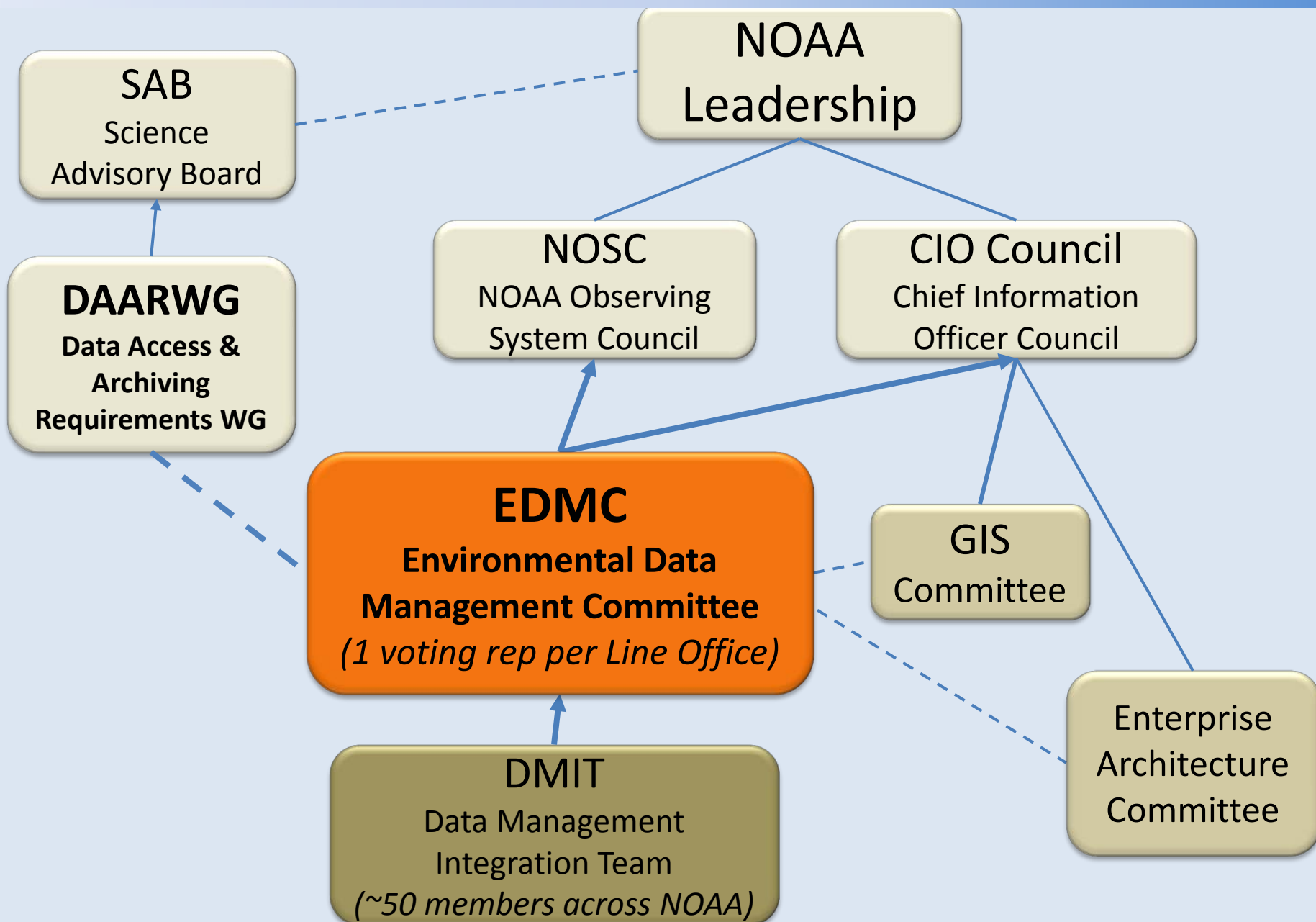
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Governance

- NGSP, AGM, SEE Process
- SAB, DAARWG
- CIO Council, NOSC
- NAO 212-15
- **EDMC**
- GIS & EA Cmtees

NOAA DM Governance



EDMC Procedural Directives

Data Management Planning PD

Plan, in advance, how you will preserve, document and distribute your data.

Archive Procedure

What to archive, how to submit to archive.

Data Documentation

How to apply ISO 19115 metadata for discovery, use & understanding.

Data Sharing by NOAA Grantees

State in proposal how you will share data, and share within 2 years.

Data Citation

Use unique identifiers to allow data to be referenced and tracked.

Data Access

What on-line services to use so your data can be obtained.

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Resources

- Budget
 - Project-specific
 - NOAA-wide
- Personnel
 - Training
 - Recognition

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Standards

- Interoperability
- Metadata
- Vocabularies
- IT Security
- Quality Control

Data Management Framework

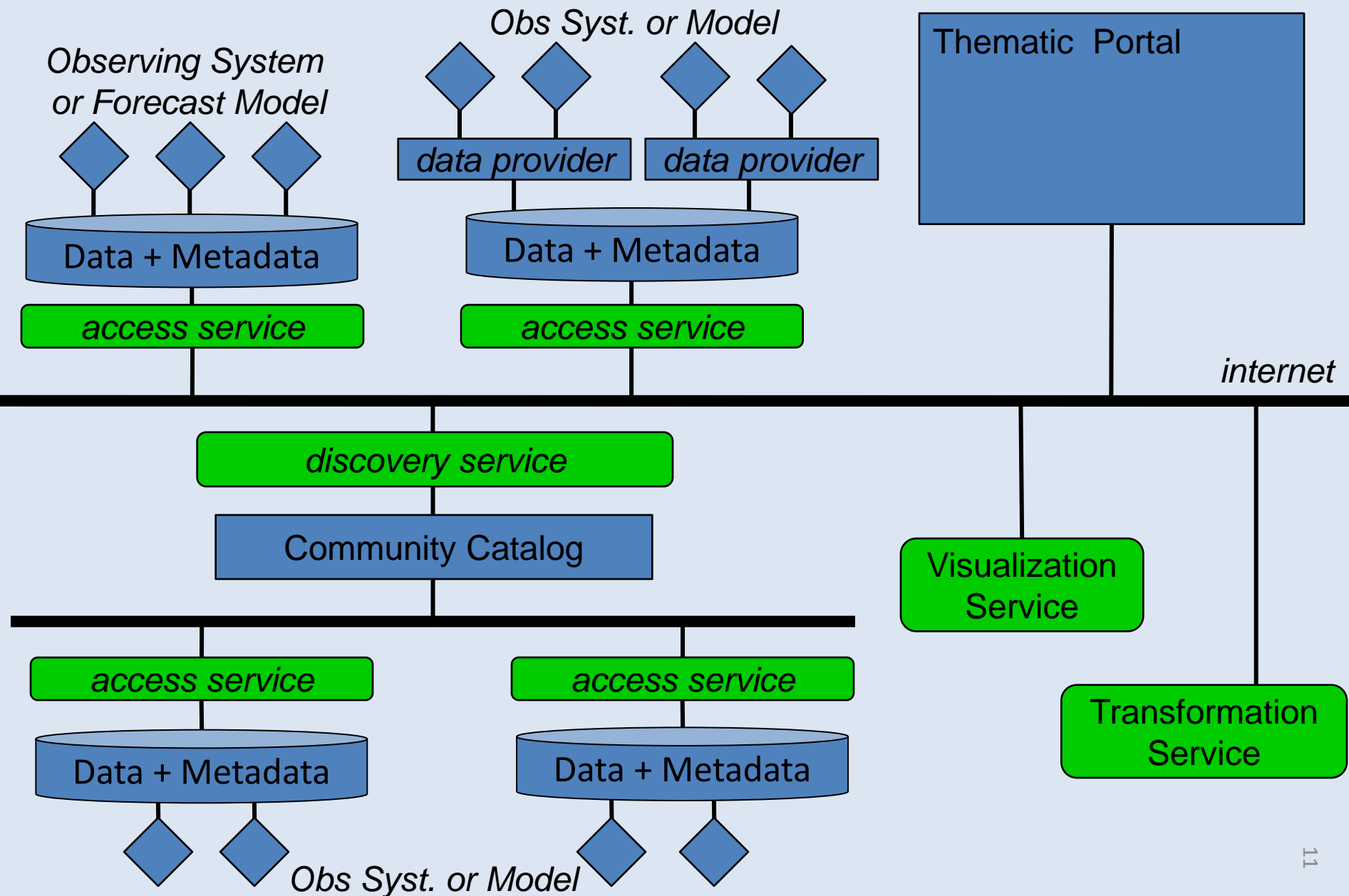
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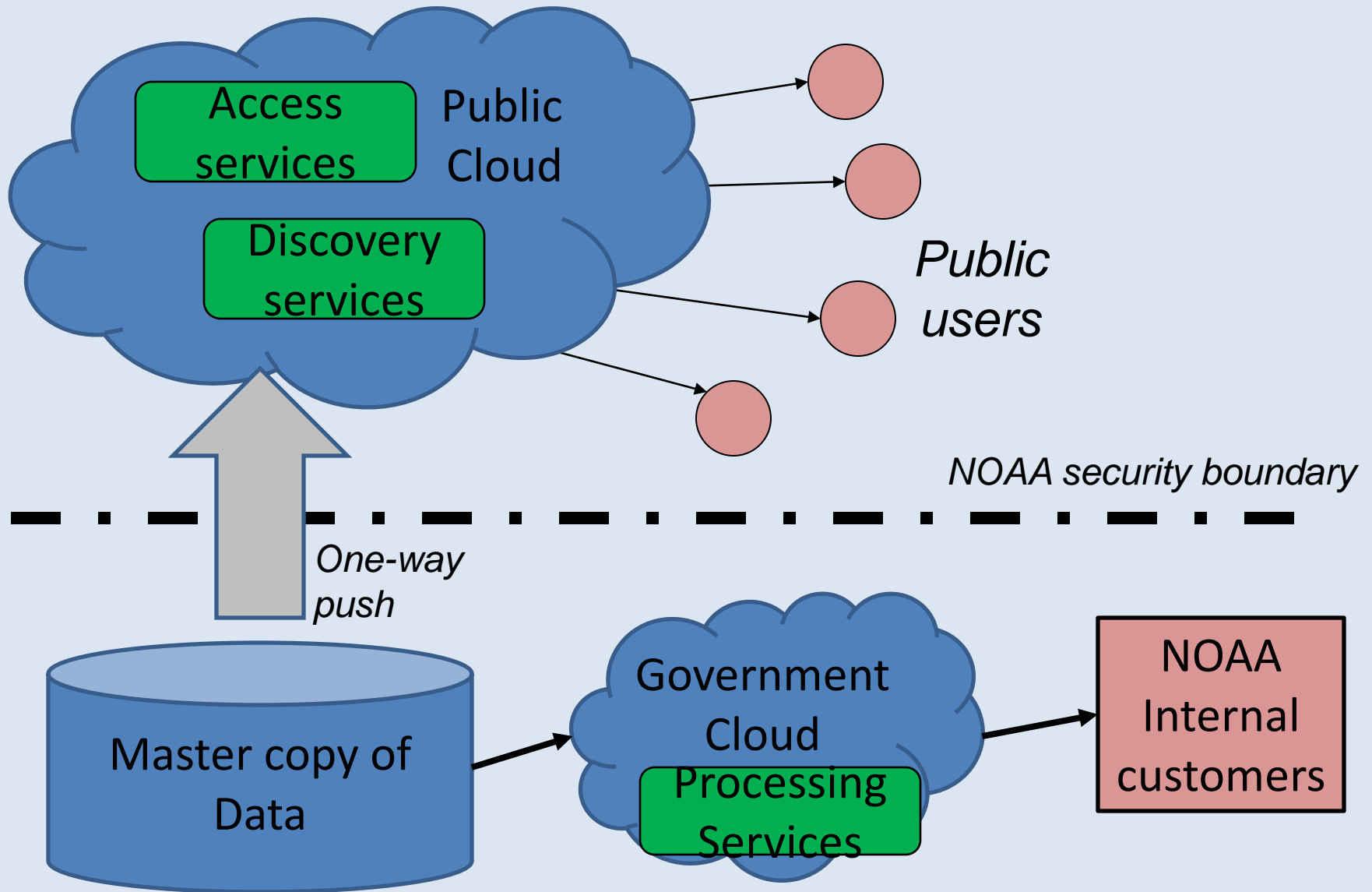
Architecture

- **Service-based, System-of-systems approach**
- Archival Data Centers
 - CLASS
- Legacy systems
- NESDIS Enterprise Ground System concept
- **Cloud technologies**

Service-based, System-of-systems Approach



Cloud Deployment Concepts



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Assessment

- Current state
 - Aerospace study
 - Observing System of Record DM survey
- Progress measurements
 - EDMC Reporting
 - **DM Dashboard**
- Feedback from users & implementers

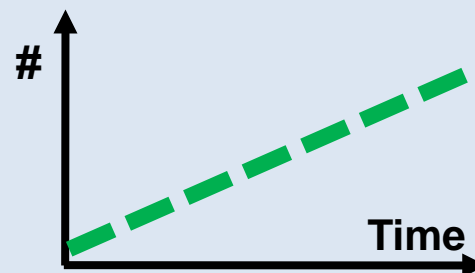
NOAA Data Management Dashboard Roles

1: Know about metadata sources.

DM Dashboard

- Metadata WAF #1
- Metadata WAF #2
- Local catalog #1
- Local catalog #2

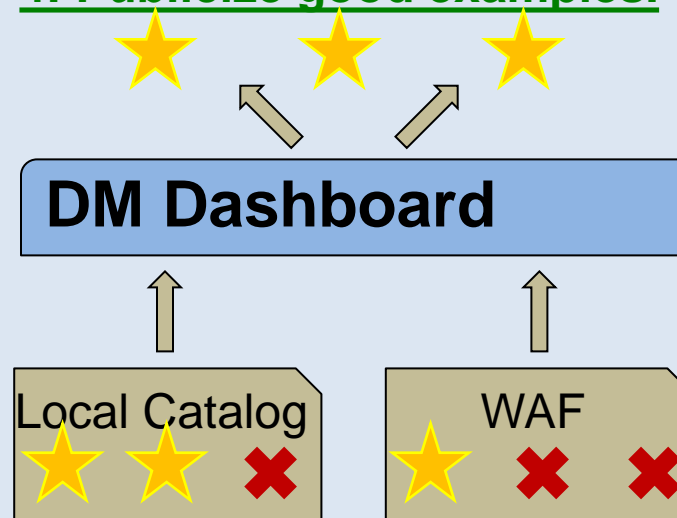
2: Produce summary reports.



3: Provide feedback to data providers.

- ☒ • Metadata quality score
- ☒ • Server compatibility test

4: Publicize good examples.



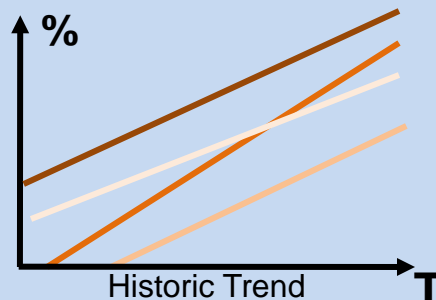
Mockup: DM Dashboard

Last Update: yyyy-mm-dd

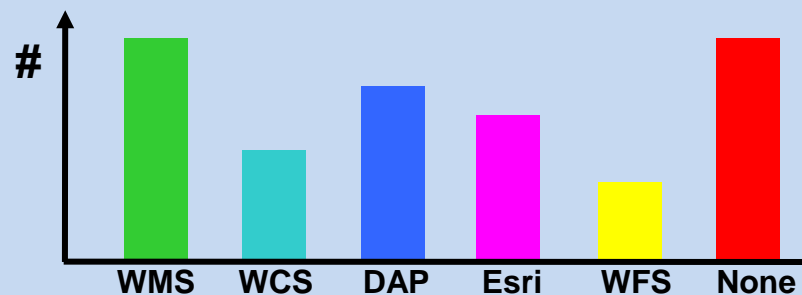
Accessibility

% Records with Data Access Service Link

NOAA	46%
Line Ofc 1	25%
Line Ofc 2	80%
Line Ofc 3	50%

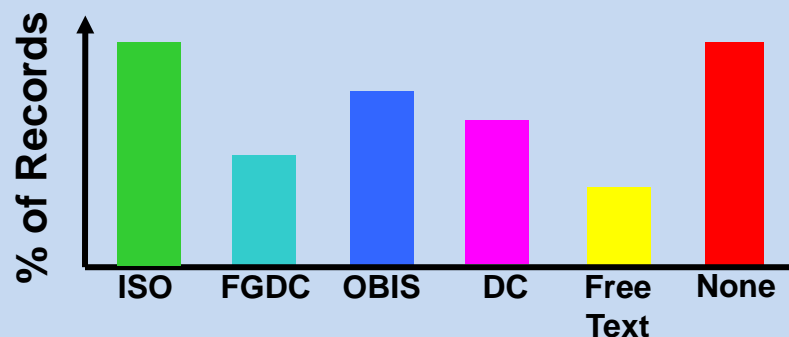


Data Access Service Types Offered



Documentation

Metadata Dialects Used



Metadata Completeness Scores

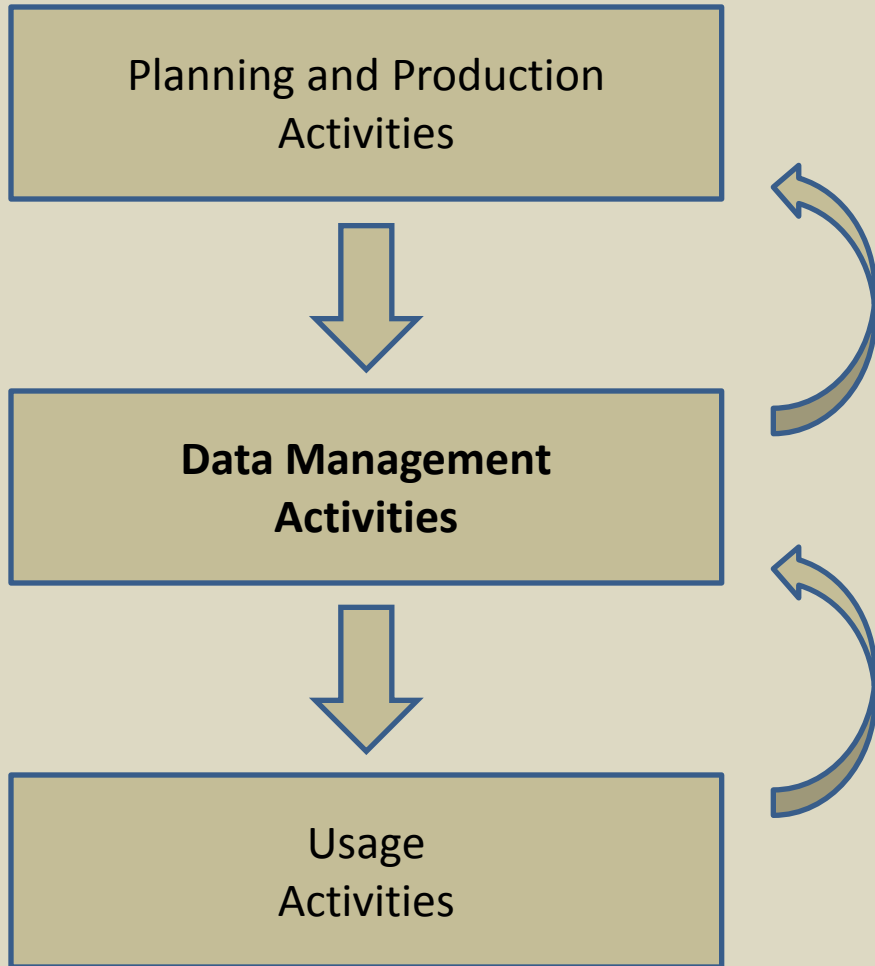
	Mean	σ	Min	Max
NOAA				
Line Ofc 1				
Line Ofc 2				

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Data Lifecycle



Data Lifecycle Overview

Data Lifecycle

*Planning and
Production
Activities*

Requirements Definition
Planning
Development
Deployment
Operations

*Data
Management
Activities*

Collection
Processing
Quality Control
Documentation
Cataloging
Dissemination
Preservation
Stewardship
Usage Tracking
Final Disposition

*Usage
Activities*

Discovery
Reception
Understanding
Analysis
Product Generation
User Feedback
Citation
Tagging
Gap Assessment

Data Lifecycle Activities

Data Lifecycle

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Data Lifecycle Activities

*Feedback and
Support Interactions*

Data Lifecycle

*Planning and
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*Usage
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Applicability of EDMC Directives

DM Planning

Data Documentation

Data Sharing by Grantees

Data Access

Archive Procedure

Data Citation

Data Management Concept of Operations

(Not all activities illustrated)

